IN THE SPECIFICATION

The original specification on page 10, lines 5-10 incorporated by reference an article by M. Garrett and M. Borden entitled, "Interoperation of Controlled-Load Service and Guaranteed Service with ATM", a copy of which resides at ftp://ftp.isi.edu/in-notes/rfc2381.txt.

In paragraph 3 of the Office Action, the Examiner states that "it is not clear how IP is mapped into ATM." It is respectfully submitted that the Garret and Borden article illustrates one example of how IP traffic can be mapped into various ATM service categories.

To further assist the Examiner, the following text from the Garrett and Borden article is now made a part of the specification (on page 10 between paragraphs 4 and 5):

In further detail to appropriately map Guaranteed Service (GS) categorized IP traffic to ATM service levels, real-time timing is required. In addition, data flows may have a variable rate, and non-conforming traffic must be demoted, so-to-speak, to a Best Effort service category. For this reason, rt-VBR or CBR ATM service levels can be used.

Table 1 lists some of the key parameters involved in mapping Guaranteed Service categorized, IP traffic to an rt-VBR, ATM service level.

Table 1

AAL

    Type   5

Type	5
Forward CPCS-SDU Size	parameter M of rcvr TSpec + 8 Bytes
Backward CPCS-SDU Size	parameter M of rcvr TSpec + 8 Bytes
SSCS Type	0 (Null SSCS)

Traffic Descriptor

Forward PCR CLP=0+1	
Backward PCR CLP=0+	0
Forward SCR CLP=0	
Backward SCR CLP=0	0
Forward MBS (CLP=0)	
Backward MBS (CLP=0)	0
BE indicator	NOT included
Forward Frame Discard bit	1
Backward Frame Discard bit	1
Tagging Forward bit	1 (Tagging requested)
Tagging Backward bit	1 (Tagging requested)

Broadband Bearer Capability

Bearer Class	16 (BCOB-X)
ATM Transfer Capability	9 (Real time VBR)
Susceptible to Clipping	00 (Not Susceptible)
User Plane Configuration	01 (Point-to-Multipoint)

Broadband Low Layer Information

User Information Layer 2	
Protocol	12 (ISO 8802/2)
User Information Layer 3	
Protocol	11 (ISO/IEC TR 9577)
ISO/IEC TR 9577 IPI	204

QoS Class

QoS Class Forward	1
QoS Class Backward	1

Extended QoS Parameters
    Acceptable Forward CDV
    Acceptable Forward CLR

Table 2 lists some of the key parameters involved in mapping Guaranteed

Service categorized, IP traffic to a CBR, ATM service level.

Table 2.

AAL

Type	5
Forward CPCS-SDU Size	parameter M of rcvr TSpec + 8 Bytes
Backward CPCS-SDU Size	parameter M of rcvr TSpec + 8 Bytes
SSCS Type	0 (Null SSCS)

Traffic Descriptor

Forward PCR CLP=0+1	
Backward PCR CLP=0+1	0
BE indicator	NOT included
Forward Frame Discard bit	1
Backward Frame Discard bit	1
Tagging Forward bit	0 (Tagging not requested)
Tagging Backward bit	0 (Tagging not requested)

Broadband Bearer Capability

Bearer Class	16 (BCOB-X)
ATM Transfer Capability	5 (CBR)
Susceptible to Clipping	00 (Not Susceptible)
User Plane Configuration	01 (Point-to-Multipoint)

Broadband Low Layer Information
User Information Layer 2

Protocol	12 (ISO 8802/2)
User Information Layer 3	
Protocol	11 (ISO/IEC TR 9577)
ISO/IEC TR 9577 IPI	204

QoS Class

QoS Class Forward	1
QoS Class Backward	1

Extended QoS Parameters
Acceptable Forward CDV
Acceptable Forward CLR
Forward Max CTD

Turning now to IP traffic that is required to meet a Controlled Load

service (CLS), it should be noted that CLS traffic is partly delay tolerant and

has a variable rate. Nrt-VBR and ABR ATM service levels are the preferred

choices for supporting CLS.

Table 3 lists some of the key parameters involved in mapping CLS, IP

traffic to an Nrt-VBR, ATM service level.

Table 3.

AAL

Type	5
Forward CPCS-SDU Size	parameter M of rcvr TSpec + 8 Bytes
Backward CPCS-SDU Size	parameter M of rcvr TSpec + 8 Bytes
SSCS Type	0 (Null SSCS)

Traffic Descriptor

Forward PCR CLP=0+1	
Backward PCR CLP=0+1	0
Forward SCR CLP=0	
Backward SCR CLP=0	0
Forward MBS (CLP=0)	
Backward MBS (CLP=0)	0
BE indicator	NOT included
Forward Frame Discard bit	1
Backward Frame Discard bit	1
Tagging Forward bit	1 (Tagging requested)
Tagging Backward bit	1 (Tagging requested)

Broadband Bearer Capability

Bearer Class	16 (BCOB-X)
ATM Transfer Capability	10 (Non-real time VBR)
Susceptible to Clipping	00 (Not Susceptible)
User Plane Configuration	01 (Point-to-Multipoint)

Table 3. (Continued)

Broadband Low Layer Information
    User Information Layer 2
        Protocol   12 (ISO 8802/2)
    User Information Layer 3
        Protocol   11 (ISO/IEC TR 9577)
        ISO/IEC TR 9577 IPI   204

QoS Class

    QoS Class Forward   3
    QoS Class Backward   3

Extended QoS Parameters
    Acceptable Forward CDV
    Acceptable Forward CLR
Forward Max CTD

Table 4 lists some of the key parameters involved in mapping CLS, IP

traffic to an ABR, ATM service level.

Table 4.

AAL

    Type   5
    Forward CPCS-SDU Size   parameter M of rcvr TSpec + 8 Bytes
    Backward CPCS-SDU Size parameter M of rcvr TSpec + 8 Bytes

    SSCS Type   0 (Null SSCS)

Traffic Descriptor

    Forward PCR CLP=0+1
    Backward PCR CLP=0+1   0
    Forward MCR CLP=0+1
    Backward MCR CLP=0+1   0
    BE indicator   NOT included
    Forward Frame Discard bit 1
    Backward Frame Discard bit 1
    Tagging Forward bit   0 (Tagging not requested)
    Tagging Backward bit   0 (Tagging not requested)

Table 4. (Continued)

Broadband Bearer Capability

Bearer Class	16 (BCOB-X)
ATM Transfer Capability	12 (ABR)
Susceptible to Clipping	00 (Not Susceptible)
User Plane Configuration	00 (Point-to-Point)

Broadband Low Layer Information
User Information Layer 2
      Protocol   12 (ISO 8802/2)
User Information Layer 3
      Protocol   11 (ISO/IEC TR 9577)
      ISO/IEC TR 9577 IPI   204

QoS Class

QoS Class Forward	0
QoS Class Backward	0

Extended QoS Parameters
      Acceptable Forward CDV
      Acceptable Forward CLR
      Forward Max CTD

ABR Setup Parameters
ABR Additional Parameters

If CLS, IP traffic is to be mapped to a CBR or rt-VBR, ATM service level,

then substantially the parameters shown in Tables 1 and 2 may be used.